

CLAIMS

1.- Coupling for the teeth of excavators and the like, of the type which comprises a tooth-carrying part (1, 27) for coupling to the active edge of the bucket of the excavator which has a projection (2, 31) having a section decreasing towards the free end of a shape substantially complementary to a seating of the tooth (17, 49) to permit the coupling of the latter, wherein the coupling between tooth (17, 49) and tooth-carrier is produced by means of the combination of multiple successive areas from the median portion of the coupling part to its free end, comprising a first area of stepped straight guides (9, 10; 45, 46; 57, 58) which open on the lateral outer surfaces of the tooth-carrying (1, 27) part which are intended to receive the complementary profiles of the lateral wings (18, 19; 50, 51) of the tooth (17, 49), followed by an area for guiding by means of revolution surfaces (20, 21), opposed to one another, and with a terminal area (24, 31) in the form of a prismatic rod having its axis coinciding with that of the tooth-carrying part (1, 27) characterized for having:

- an area with stepped straight guides (9, 10; 45, 46; 57, 58) adopting the form of a groove closed in its rear end and open in its front end to permit the gliding introduction of the lateral wings (18, 19; 50, 51) of the tooth (17, 49) having at least one of said lateral wings (18, 19; 50, 51) an internal projecting block (54) which during the assembly of the tooth (17, 49), runs along the lateral grooves (22, 23; 45, 46 and 58) being retained in position by the retaining bolt (25, 59),
- an area for retaining the tooth (17, 49) formed by two bowed recesses (60) provided in the front edge

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(7) of the tooth-carrying portion (1, 27) which recesses (60) receive the rear edge (61) of the opening or mouth of the tooth (17, 49) comprising a sharp angle  $\alpha$  to the perpendicular to the mean plane of the tooth (17, 49), which angle is complementary of said rear edge (61) of the mouth of the tooth (17, 49),

- a guiding area which constituting one of the planes of the dihedral angle of said retaining recesses (60) is comprised of two conical surfaces (20, 21) opposed to each other, which axis of revolution are in the same plane being offset to each other and different to the axis of the tooth-carrying portion (1, 27),
- an end area (24, 31) which cross section corresponds to an irregular hexagon with the longer sides in horizontal position and
- one or two holes (26, 47, 48) for receiving the retaining bolt (25, 59), which are arranged in the tooth-carrying portion (1, 27) going through the same vertically, being interrupted by the stepped profile of the straight guide (9, 10; 45, 46; 57, 58) being offset in relation to the bolt recesses (60) of the front edge (7) of the tooth-carrying portion (1, 27).

2.- Coupling for the teeth of excavators and the like, according to Claim 1, characterized in that the bowed recesses (60) of the front edge (7) of the tooth-carrying portion (1, 27) which receive the rear edge (61) of the mouth or opening of the tooth (17, 48) extend along the profile of the broadest part of the mating area which is formed by the two conical surfaces (20, 21) disposed in opposition to each other, forming the rear part of the nose of the tooth-carrying portion.

3.- Coupling for the teeth of excavators and the

like, according to claim 2, characterized in that the two bowed recesses (60) of the front edge (7) of the tooth-carrying portion (1, 27) have an upper and a lower portion which are limited in its two ends by the two stepped guides (9, 10; 45, 46; 57, 58) forming one of the coupling areas.

4.- Coupling for the teeth of excavators and the like, according to claim 2, characterized in that the two bowed recesses (60) of the front edge (7) of the tooth-carrying portion (1, 27) limit the broadest part of the two conical surfaces (20, 21) which form the mating or coupling area which in its turn are directly limited by their sides by the stepped guides (9, 10; 45, 46; 57, 58), forming the mating area, and merging without interruption with a surface of the end mating area (24, 31).

5.- Coupling for the teeth of excavators and the like, according to Claim 1, characterized in that the stop function performed by the bowed recesses (60) of the front edge of the tooth-carrying portion (1, 27) in respect to the rear edge (61) of the opening or mouth of the tooth (17, 49) is complemented by the stop action performed by the rear walls of the stepped straight guides (9, 10; 45, 46; 57, 58), in respect to the protruding ends of the side wings (18, 19; 50, 51).

6.- Coupling for the teeth of excavators and the like, according to claim 1, characterized in that the bolt (25, 59) for retaining the tooth (17, 49) on the tooth-carrying portion (1, 27) has a shorter length than the hole (26, 47, 48) for receiving the same of the tooth-carrying portion (1, 27) permitting said hole to receive upper or lower removable covers (34, 35).

7.- Coupling for the teeth of excavators and the like, according to Claim 6, characterized in that the

covers (34, 35) closing the hole for receiving the bolt are partially seated in the end upper and lower recesses (32, 33) of the hole (26, 47, 48) for the bolt (25, 59).

8.- Coupling for the teeth of excavators and the like, according to Claims 1 and 7, characterized in that the profile of the side wings (18, 19; 50, 51) of the tooth (17, 49) is complementary to the profile of the stepped straight guides (9, 10; 45, 46; 57, 58).

9.- Coupling for the teeth of excavators and the like, according to Claim 1, characterized in that the cross section of the end area (24, 31) in the form of an irregular hexagon extends in correspondence with at least one of the ends, in a rectangular shaped prolongation.